

## Sustainability Success Story

### Torroella de Montgrí and L'Estartit

#### Building deconstruction and the restoration of ecological functioning in the coastal systems of La Pletera.

**Aim to address one of the following categories:**

#### **Earth (Environment & Climate)**

##### **1. Issues faced:**

The salt marshes of La Pletera harboured a series of lagoons, that were drained in 1987 in order to build an almost 1-km-long promenade and six condominium, of which only one was ever finished. The works were abandoned at the beginning of the 1990s, since then the area has become even more degraded.

Life Pletera Project has deconstructed the built-up areas in La Pletera and has restored the ecological functioning in the area. This implied the elimination of the unfinished promenade, streets, infrastructures and the return of this coastal system to its original state.

The project belongs to the strategy started up by the City Council since the end of the last century, which seeks to enhance the value of natural heritage, sustainability and adaptation to the effects of climate change as well as elements of the local development and as a differential trait of the tourist development of the municipality.

##### **2. Methods / steps / tools used:**

Life Pletera project has been coordinated by the Town Council of Torroella de Montgrí and has been supported by the partners Generalitat de Catalunya, Universitat de Girona and Tragsa. De-construction and restoration have implied the following steps:

- Functional design of the space and knowledge of the subsoil
- Scientific monitoring before, during and after the restoration works.
- Restoration work:
  - o Removal of urban infrastructure
  - o Excavation and creation of coastal lagoons
  - o Dune system and topographic level restoration
  - o Creation of network of visiting itineraries
- Awareness raising actions throughout the project

##### **3. Specific/measurable results, benefits and recognitions (e.g. awards):**

The results and benefits of the project have been:

- The increasing of 3'14 hectares of the habitat of community interest of coastal lagoons. Code [1150; priority habitat]. Increaseing in 4'56 hectares of habitats of community interest where salicornia dominates. Codes [1310/1420].
- The improving of the population of Spanish toothcarp (*Aphanius iberus*). The Spanish toothcarp is an endemic fish of the Iberian Peninsula that is listed in



Annex II. Its population was about to disappear due to the regression of wetlands for urban and tourist uses. The project increased the core species populations thanks to the creation of new lagoons.

- The recovering of the ecosystem services provided by the restored natural system, especially those related to protection against the impacts caused by the increase in sea levels and the frequency and intensity of storms. Specifically the restored marshlands softs, the erosive effects of storms and reduce seawater intrusion to surrounding adjacent areas.
- The creation of a signposted itinerary with informative panels for the visit of the area. It is an accessible itinerary of 2.25km along with one observation point.
- The increasing in the capacity of water lamination in episodes of intense precipitation and sea storm.

#### **4. Lessons learned:**

Problems encountered:

- The balance between facilitation of freshwater drainage and the stoppage of marine intrusion. The contiguous agricultural area has two threats in relation to the flow of water: on the one hand, the lack of drainage in rainfall episodes and on the other hand, the intrusion of seawater during the storms.
- The determination of the topographic levels that allow the ecological functioning of the space. In a marsh area, differences in cm in the topographic level imply very large differences in the duration of the flood.
- Finding a solution based on the contribution of the water to the marsh and not of the sand in sea storms. Facilitating the interchange of water between lagoons and the sea necessarily facilitates the unwanted intrusion of sand from the dune into the marsh.
- Finding the ideal location of a parking area. The new context of the restored space requires equipment to order accesses, both in the area and at the beach. It is difficult to find an ideal space since the land has a natural or agricultural value.
- The awareness of the visitor, previously used to a free access, nearby parking and pet-friendly walk without control. Proper use of the new space is one of the challenges to face in the immediate future.

#### **5. Specific/additional (web) references:**

<http://lifepletera.com/en/>

[http://lifepletera.com/wp-content/uploads/2015/08/life\\_ANGLES1.pdf](http://lifepletera.com/wp-content/uploads/2015/08/life_ANGLES1.pdf)

<https://www.youtube.com/watch?v=GDeqdAubS0s&t=4s>

<https://www.youtube.com/watch?v=o13Wbj5VpKo&t=55s>

<https://www.youtube.com/watch?v=7cYOLQL789k>

<https://www.youtube.com/watch?v=OSpwI3qTsP4>

